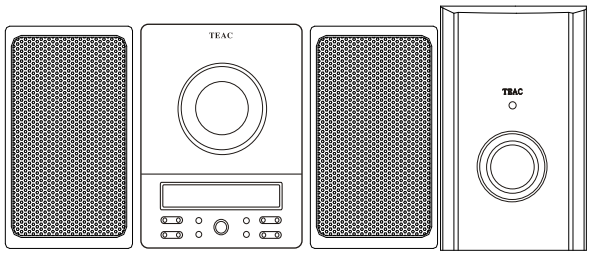
TEAC



SERVICE MANUAL

CD-X9

MICRO Hi-Fi SYSTEM

COMPACT disc DIGITAL AUDIO

NOTES

- PC board shown are viewed from parts side.
- The parts with no reference number or no parts number in the exploded views are not supplied.
- As regards the resistors and capacitors, refer to the circuit diagrams contained in this manual.
- ⚠ Parts marked with this sign are safety critical components. they must be replaced with identical components - refer to the appropriate parts list and ensure exact replacement.
- Parts of [ ] mark can be used only with the version designated.

CONTENTS

1 SAFETY INFORMATION 2
2 SPECIFICATIONS 3
3 ADJUSTMENT AND CHECKS 4
4 EXPLODED VIEW AND PARTS LIST 6
5 PC BOARDS AND PARTS LISTS 9
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7 INCLUDED ACCESSORIES 19

1 SAFETY INFORMATION

SAFETY INFORMATION

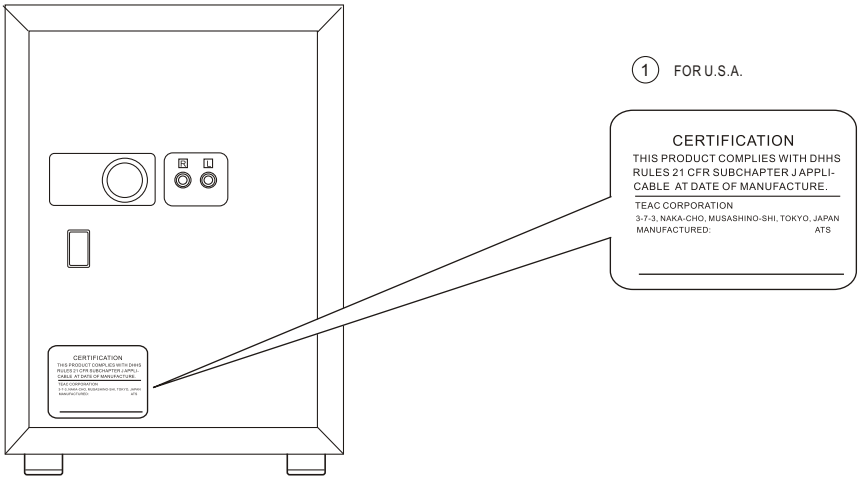
This product has been designed and manufactured according to FDA regulations " title 21, CFR, chapter 1,subchapter J,based on The Radiation Control for Health and Safety Act of 1968" and is classified as class 1 laser product. There is not hazardous invisible laser radiation during operation because invisible laser radiation emitted inside of this product is completely confined in the protective housings. The label required in this regulation is shown ①.

• CAUTION

USE OF CONTROLS OR ADJUSTMENT OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

DO NOT REMOVE THE PROTECTIVE HOUSING USING SCREWDRIVER.

IF THIS PRODUCT DEVELOPS TROUBLE, MAKE A CONTACT WITH OUR SERICEMAN, AND DO NOT USE THE PRODUCT A TROUBLED STATE.



① FOR U.S.A.

Optical pickup:	
Type	: CMS-M93BG6U
Manufacturer	: Samsung Electro-Mechanic
Laser output	: Less than 0.5 mW on the objective lens
Wavelength	: 760 - 800 nm

2 SPECIFICATIONS

Amplifier Section

Output Power (L+R)	5W + 5W
Output Power Subwoofer:	15 W
Input Sensitivity	300mV
Frequency Response :	50 to 20,000 Hz

Tuner Section (FM)

Frequency Range	87.5 MHz to 108.0 MHz
Sensitivity (S/N30dB)	20dBuV

Tuner Section (AM)

Frequency Range	520 to 1710 kHz
Sensitivity (S/N20dB)	54dBuV/m

CD Player Section

Frequency Responce	20 to 20,000 Hz (+/-1dB)
Signa-to-Noise Ratio	55 dB
Wow and Flutter	Unmeasurable

SPEAKER SYSTEM Section

L & R speaker :	
Type :	Full range flat type
Impedance :	4 ohms
Subwoofer:	
Impedance :	8 ohms

GENERAL

Power Requirements:	120V AC,60Hz	
Power Consumption:	80 W	
Dimension (W x H x D):	Main Unit	160 x 226 x 86 mm
	L & R Speaker	142 x 226 x 70mm
	Subwoofer	160 x 245 x 335mm
Weight: (net)	Main Unit	1.0 kg
	L & R Speaker	0.6 kg(each)
	Subwoofer	5.3 kg

Standard Accessories:
- Remote Control Unit (RC-1045) x 1
- Subwoofer Cable x 1
- Speaker Cable x 2
- FM Antenna x 1
- AM Antenna x 1
- Battery for Remote Control Unit x 1
- Wall Mount Adaptor x 3
- Wall Mount screw x 10
- Tapered Plastic Wall Anchor x 10
- Template for Wall Mounting x 1
- Stereo mini plug cable x 1
- Owner s Manual x 1
- Warranty Card x 1

- Design and specifications are subject to change without notice.
- Illustrations may differ slightly from production models.
- Weight and dimensions are approximate.

3 ADJUSTMENTS AND CHECKS

3-1 TUNER SECTION

- Use a screwdriver with a plastic or ceramic grip for all adjustment.

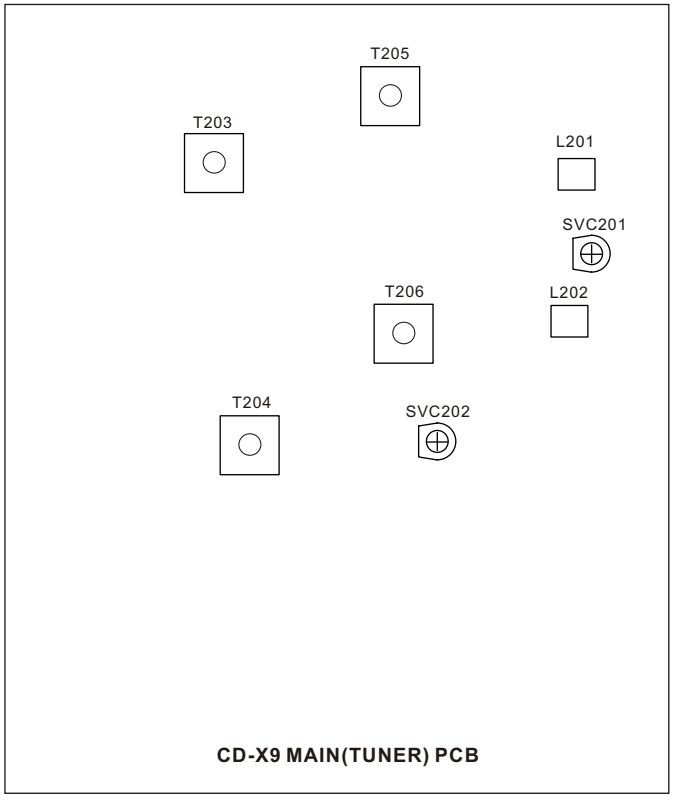
3-1-1 FM adjustment

1. Set the function switch to the FM position.
2. Connect the signal generator output through a 75 ohm dummy antenna to "ANT" on MAIN PCB.
3. Connect the oscilloscope to the speaker terminal.
4. Set the signal generator as listed in the alignment chart.

3-1-2 AM adjustment

1. Set the function switch to the AM position.
2. Connect the test loop antenna across the output of the signal generator.
3. Connect the oscilloscope to the speaker terminal.
4. Set the signal generator as listed in the alignment chart.

3-2 Adjustment and Test Points



CD-X9 MAIN(TUNER) PCB

3-2-1 FM/AM alignment chart

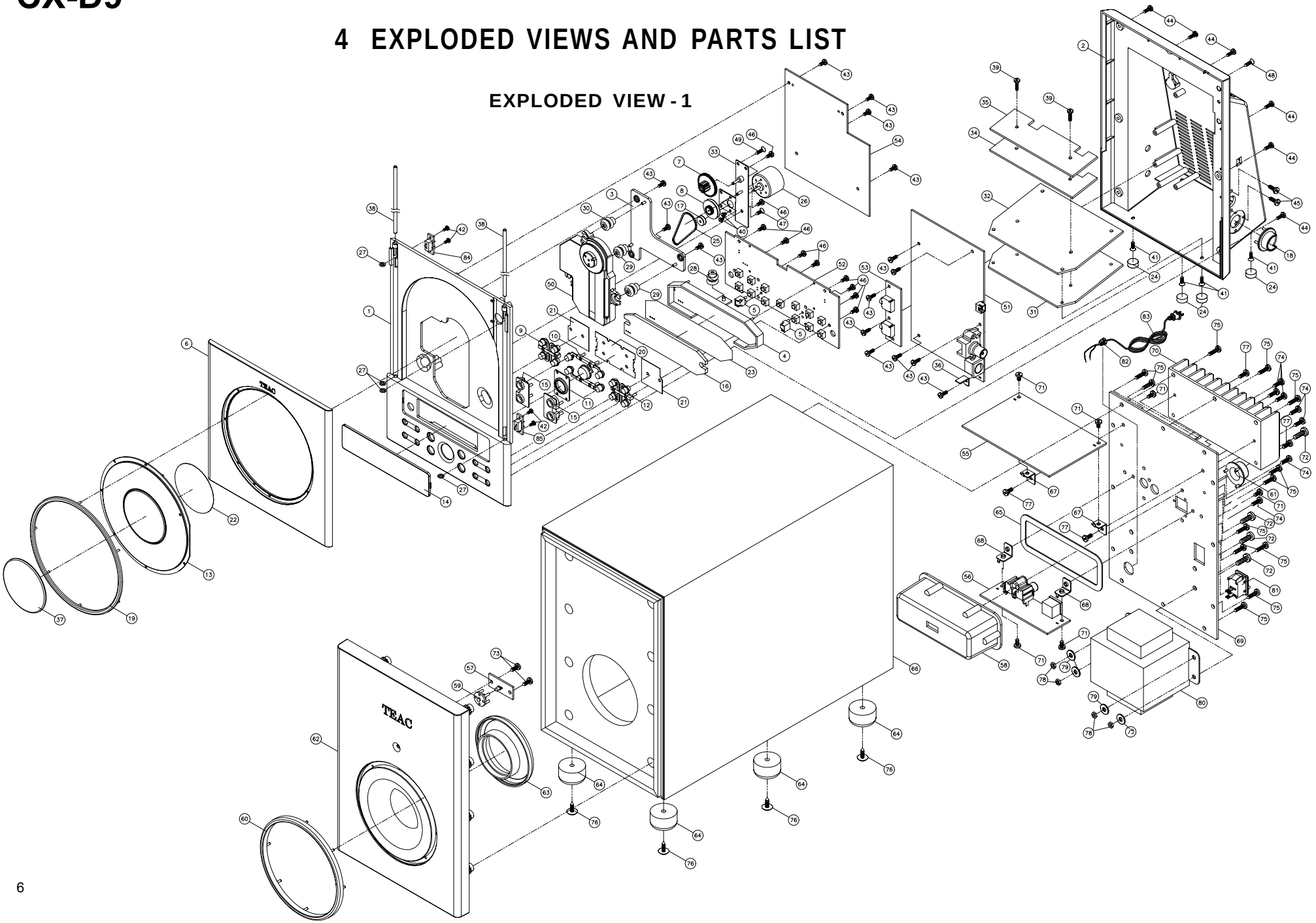
ITEM	SG SETTING	TUNER SETTING	ADJUSTMENT POINT	ADJUSTMENT
FM				
1.IFT adjustment	10.7 MHz 1kHz, +/-22.5kHz dev.	108MHz	T205	With 10.7 MHz at zero crossover
2. FM band	87.5MHz 1kHz, +/-22.5kHz dev.	87.5MHz	L202	Adjust for max. output and best waveform.
3. Tracking	90MHz 1kHz, +/-22.5kHz dev.	90MHz	L201	
	106MHz 1kHz, +/-22.5kHz dev.	106MHz	SVC201	
	Repeat step 3			
AM				
1. IF adjustment	455kHz 1kHz, 30% mod	1710kHz	T203	Center for max. output.
2. AM band	520kHz 1kHz, 30% mod	520kHz	T206	Adjust for max. output and best waveform.
3. Tracking	600kHz 1kHz, 30% mod	600kHz	AM ant coil (T204)	
	1400kHz 1kHz, 30% mod	1400kHz	SVC202	
	Repeat step 3			

3-3 CD SECTION

Auto alignment.

4 EXPLODED VIEWS AND PARTS LIST

EXPLODED VIEW - 1



EXPLODED VIEW-1

REF. NO	PARTS NO.	DESCRIPTION	REMARKS
1-1	56-04CDX090A010	FRONT CABINET	
1-2	56-05CDX0908010	REAR CABINET	
1-3	56-07CDX0909000	CD BRACKET	
1-4	56-07CDX0919000	DISPLAY BRACKET	
1-5	56-07CDX0928000	LIGHT BRACKET	
1-6	56-14CDX090A010	CD DOOR	
1-7	56-24DX01500000	CD DOOR GEAR	
1-8	56-24DX01510000	STRAP GEAR	
1-9	56-53CDX090A000	CD KNOB GROUP/L	
1-10	56-53CDX091A010	CD KNOB GROUP/M	
1-11	56-53CDX0948000	STANDBY KNOB CHROME RING	
1-12	56-54CDX092A000	CD KNOB GROUP/R	
1-13	56-57CDX0900000	CD DOOR LENS	
1-14	56-57CDX0910020	DISPLAY LENS	
1-15	56-57CDX0929000	KNOB RING	
1-16	56-57CDX0940000	BACK LIGHT LENS - UNIT	
1-17	56-760000000020	DOOR MOTOR PULLY	
1-18	56-78CDX090G000	SAFEUARD RING	
1-19	56-78CDX091G000	CD DOOR CHROME RING	
1-20	57-08CDX0900020	PVC PLATE - A	
1-21	57-08CDX0900120	PVC PLATE - B	
1-22	57-08CDX0900220	CD DOOR PVC PLATE	
1-23	57-26CDX0900020	FILTER SHEET - 112.4X26.5X0.2MM	
1-24	58-262982400020	RUBBER FOOT DAI 9.8X4MM	
1-25	58-43DX01500020	DRIVE BELT DIA 31X1MM	
1-26	58-44DX01500020	MOTOR 3V	
1-27	58-58DX01500420	RUBBER DIA 5.4X3X1MM	
1-28	58-61EX0M108120	SHOCK ABSORBER (GREY)	
1-29	58-61MC23500020	SHOCK ABSORBER (GREY)	
1-30	58-61MC23500120	SHOCK ABSORBER (BLACK)	
1-31	61-11DX01500021	FERRUM PLATE (SCREW HOLE)	
1-32	61-11DX01500121	FERRUM PLATE (HOLE)	
1-33	61-11DX01500321	MOTOR BRACKET	
1-34	61-11DX01500420	FERRUM PLATE - C	
1-35	61-11DX01500520	FERRUM PLATE - D	
1-36	61-11DX01500620	D.S. PLATE	
1-37	61-68CDX0900020	CD ALUM COVER	
1-38	61-80DX01500020	FERRUM SHAFT 155X3MM	
1-39	66-120226210321	MACHINE SCREW MS/BH 2.6X10MM	
1-40	66-120320130321	MACHINE SCREW MS/PH 2X3MM	

EXPLODED VIEW-1

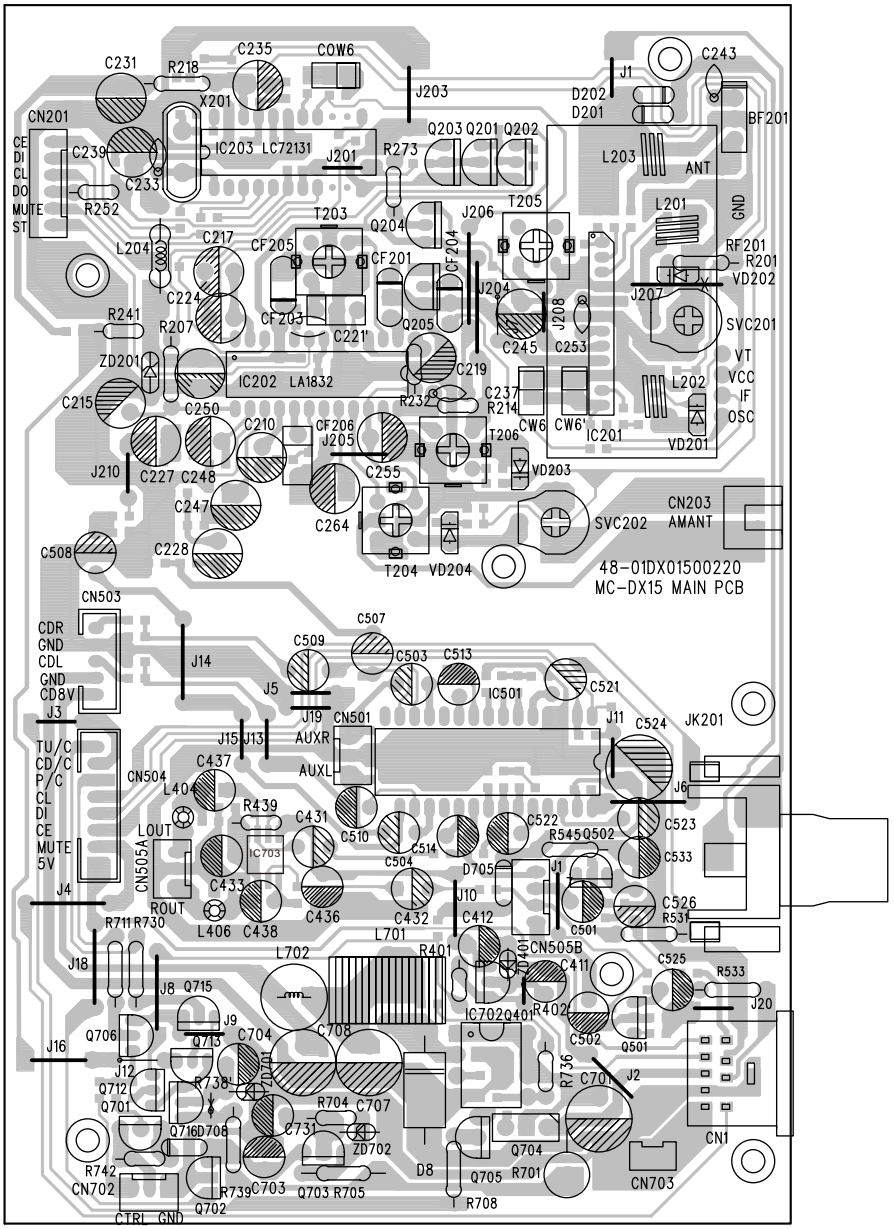
REF. NO		PARTS NO.	DESCRIPTION	REMARKS
1-41		66-120526160311	MACHINE SCREW MS/KH 2.6X6MM	
1-42		66-140220160321	SELF-TAPPING SCREW TA/BH 2X6MM	
1-43		66-140226180321	SELF-TAPPING SCREW TA/BH 2.6X8MM	
1-44		66-140226210121	SELF-TAPPING SCREW TA/BH 2.6X10MM (BLK)	
1-45		66-140230210121	SELF-TAPPING SCREW TA/BH 3X10MM (BLK)	
1-46		66-140326180321	SELF-TAPPING SCREW TA/PH 2.6X8MM	
1-47		66-140526180121	SELF-TAPPING SCREW TA/KH 2.6X8MM (BLK)	
1-48		66-140526210121	SELF-TAPPING SCREW TA/KH 2.6X10MM (BLK)	
1-49		66-140526210321	SELF-TAPPING SCREW TA/KH 2.6X10MM	
1-50		20-70CMSM93B000	CD MECHANISM	
1-51		05-01DX01500000	MAIN(TUNER) PCB ASSY	
1-52		05-05CDX0900000	KEY/DISPLAY PCB ASSY	
1-53		05-09CDX0900000	HP/AUX PCB ASSY	
1-54		05-30CDX9M00000	CD(MP3) PCB ASSY	
1-55		05-07DX01500000	SUB.POWER(AMP) PCB ASSY	
1-56		05-08DX01500000	RCA/D-S JACK PCB ASSY	
1-57		48-16DX01500221	LED PCB	
1-58		56-22CDX0908000	PCB BRACKET	
1-59		56-57CDX0936000	LIGHT LENS - SUBWOOFER BOX	
1-60		56-78CDX092G000	CHROME RING - SUBWOOFER BOX	
1-61		56-78CDX0938000	SAFEGUARD RING/SUB	
1-62		56-85CDX090A010	SUBWOOFER PANEL	
1-63		56-87CDX0908000	PLASTIC TUBE	
1-64		58-263253150020	RUBBER FOOT DIA 25MM	
1-65		58-58DX01500320	CUSHION 106X40X1MM	
1-66		58-73CDX0900020	SUBWOOFER BOX	
1-67		61-11V600000020	PCB BRACKET	
1-68		61-11V820010020	PCB FIX BRACKET - B	
1-69		61-33CDX0900020	SUB. REAR PANEL	
1-70		61-48DX01500020	HEATSINK - A	
1-71		66-120230160121	MACHINE SCREW MS/BH 3X6MM (BLK)	
1-72		66-120240212121	MACHINE SCREW MS/BH 4X12MM (BLK)	
1-73		66-140230210321	SELF-TAPPING SCREW TA/BH 3X10MM	
1-74		66-140230212121	SELF-TAPPING SCREW TA/BH 3X12MM (BLK)	
1-75		66-140230214121	SELF-TAPPING SCREW TA/BH 3X14MM (BLK)	
1-76		66-141430212121	SCREW TA/BWH 3X12MM (HEAD 10MM)	
1-77		66-150230180123	HARDEN SCREW TTB 3X8MM AB (BLK)	
1-78		67-021400000020	NUT M4MM	
1-79		68-112403101000	METAL WASHER 4X10X1MM	
1-80	⚠	18-203DX0150120	H/TRANSFORMER EI66	
1-81		41-172111000310	SWITCH	
1-82		43-500000002020	AC CORD BUSHING	
1-83	⚠	45-114180310061	AC CORD CUL APP 6FT	
1-84		48-23DX0150022A	CLOSE SW PCB ASSY	
1-85		48-23DX0150022	OPEN SW PCB ASSY	

5 PC BOARDS AND PARTS LIST

MAIN (TUNER)PCB ASSY

REF. NO	PARTS NO.	DESCRIPTION	REMARKS
	05-01DX01500000	MAIN(TUNER) PCB ASSY	
	48-01DX01500224	MAIN(TUNER) PCB	
CF201	31-028107000120	FILTER LT10.7MA5	
CF203	31-026450010110	FILTER SFU450B	
CF205	31-038107020120	FILTER JT10.7MG46-A	
CF206	31-046456000220	RESONATOR ZTB456F15	
CN201	43-012200160120	WAFER 2MM 6PIN	
CN203	43-022250120120	WAFER 2.5MM 2PIN	
CN501,505A,702	43-012200130120	WAFER 2MM 3 PIN	
CN1	43-462103003320	D-S TERMINAL #DSW-31	
CN505B	43-012200140120	WAFER 2MM 4 PIN	
CN503	43-012200150120	WAFER 2MM 5 PIN	
CN504	43-012200180120	WAFER 2MM 8 PIN	
CN703	43-012250120120	WAFER 2.5MM 2 PIN	
D8 ⚠	12-1N5822000021	RECTIFIER DIODE 1N5822	
D201,202,705	12-1N4148000021	DIODE 1N4148	
D708	12-1N4001000021	DIODE 1N4001	
IC201	16-TA8176SN0021	IC - TA8176SN	
IC202	16-LA1832000021	IC - LA1832	
IC203	16-LC7213100021	IC - LC72131	
IC501	16-LC7534200021	IC - LC75342	
IC702	16-MC34063A0021	IC - MC34063A	
IC703	16-SC1308000021	IC - SC1308-01	
JK201	43-421000003120	COAXIAL JACK IF-01	
L201,203	40-351500135020	FM COIL 5X3.5TX0.8MM	
L202	40-351500125020	FM COIL 5X2.5TX0.8MM	
L204	38-014100050020	AXIAL INDUCTOR 100UH	
L404,406	38-013100050220	AXIAL INDUCTOR 10UH-EC-36	
L701	38-104230050020	CHOKE COIL 230UH	
L702	38-103200050020	CHOKE COIL 20UH	
Q201-203,501,502, Q705,706,715	11-9014C0000021	TR - 9014C	
Q204,701	11-9015C0000021	TR - 9015C	
Q208,401,716	11-8050C0000021	TR - 8050C	
Q702	16-LM78L05A0021	IC - LM78L05A	
Q704	11-KSB772YS0021	TR - KSB772SY	
Q703	11-KSD882Y00021	TR - KSD882Y	
Q712,713	11-8550C0000021	TR - 8550C	
R241	38-013100050120	AXIAL INDUCTOR 10UH-EC-24	
SVC201,202	27-501802201020	TRIMMER 20PF	
T203	40-02A049004020	IFT 7MM A049 - YELLOW	
T204	40-023120000020	IFT 7MM 312A - BLACK	
T205	40-027400003120	IFT 7MM 740 - ORANGE	
T206	40-02660R002020	IFT 7MM 660R - RED	
VD201,202	12-SVC201SPA021	VARICAP DIODE SVC201SPA	
VD203,204	12-SVC321SPA021	VARICAP DIODE SVC321SPA	
X201	31-017450002030	CRYSTAL 4.5 MHZ	
ZD202	12-011620320121	ZENER DIODE 6.2W	
ZD401	12-011470320121	ZENER DIODE 4.7V	
ZD701	12-012110320121	ZENER DIODE 11V	
ZD702	12-011910320121	ZENER DIODE 9.1V	

MAIN(TUNER) PCB



CD(MP3) PCB ASSY - TOP

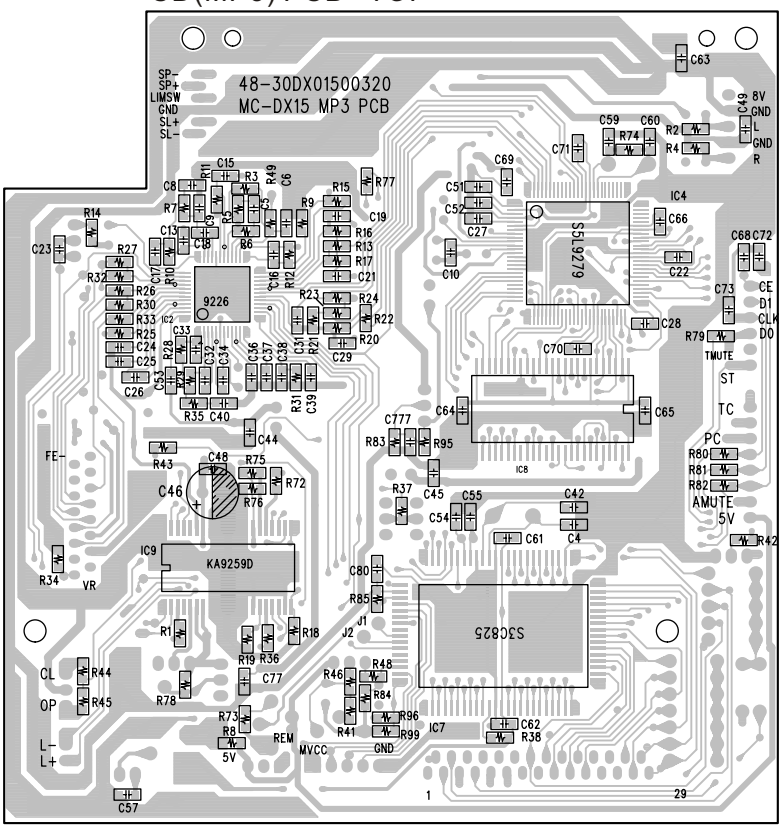
REF. NO	PARTS NO.	DESCRIPTION	REMARKS
	05-30CDX9M00000	CD(MP3) PCB ASSY	
	48-30DX01500322	CD(MP3) PCB	
IC2	16-S1L9226X0021	IC - S1L9226X01	
IC4	16-S5L927900021	IC - S5L9279X01	
IC7	16-S3C825AC0021	IC - S3C825AC51	
IC8	16-M12L16160021	IC - SDRAM-M12L16161A	
IC9	16-KA9259D00021	IC - KA9259D	

CD(MP3) PCB ASSY - BOTTOM

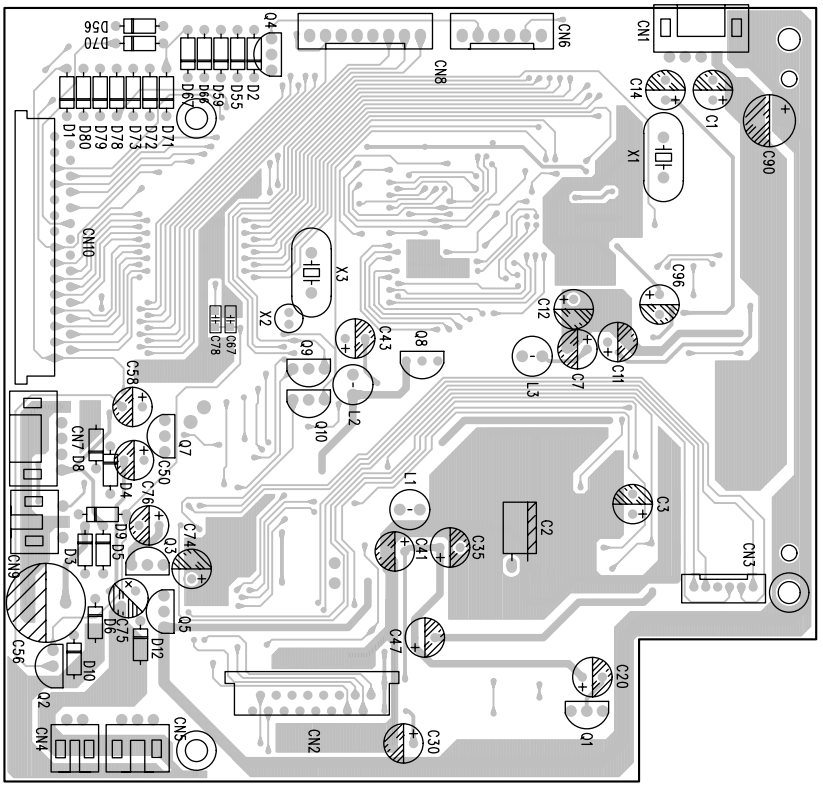
REF. NO	PARTS NO.	DESCRIPTION	REMARKS
CN2	43-022100216020	F.F.C WAFER 1MM 16 PIN	
CN3	43-012150160320	WAFER 1.5MM 6 PIN	
CN4	43-022200120120	WAFER 2MM 2 PIN	
CN5,9	43-022200130120	WAFER 2MM 3 PIN	
C56 ⚠	26-017220650121	E.CAP 2200UF/10V	
D1-5,9,10,55,56, D66,67,71-73,80	12-1N4148000021	DIODE 1N4148	
D6,8,12	12-011390320111	ZENER DIODE 3.9V	
D7 ⚠	12-1N5819000021	RECTIFIER DIODE 1N5819	
L1,2,3	38-013100050020	AXIAL INDUCTOR 10UH	
Q1,7,9,10	11-9015C0000021	TR - 9015C	
Q2,3,4,8	11-9014C0000021	TR - 9014C	
Q5	11-8550C0000021	TR - 8550C	
X1	31-018169302220	CRYSTAL 16.9344MHZ.	
X2	31-015320003310	CRYSTAL 32.768KHZ	
X3	31-017800002120	CRYSTAL 8.000MHZ	

CD-X9

CD(MP3) PCB - TOP



CD(MP3) PCB - BOTTOM



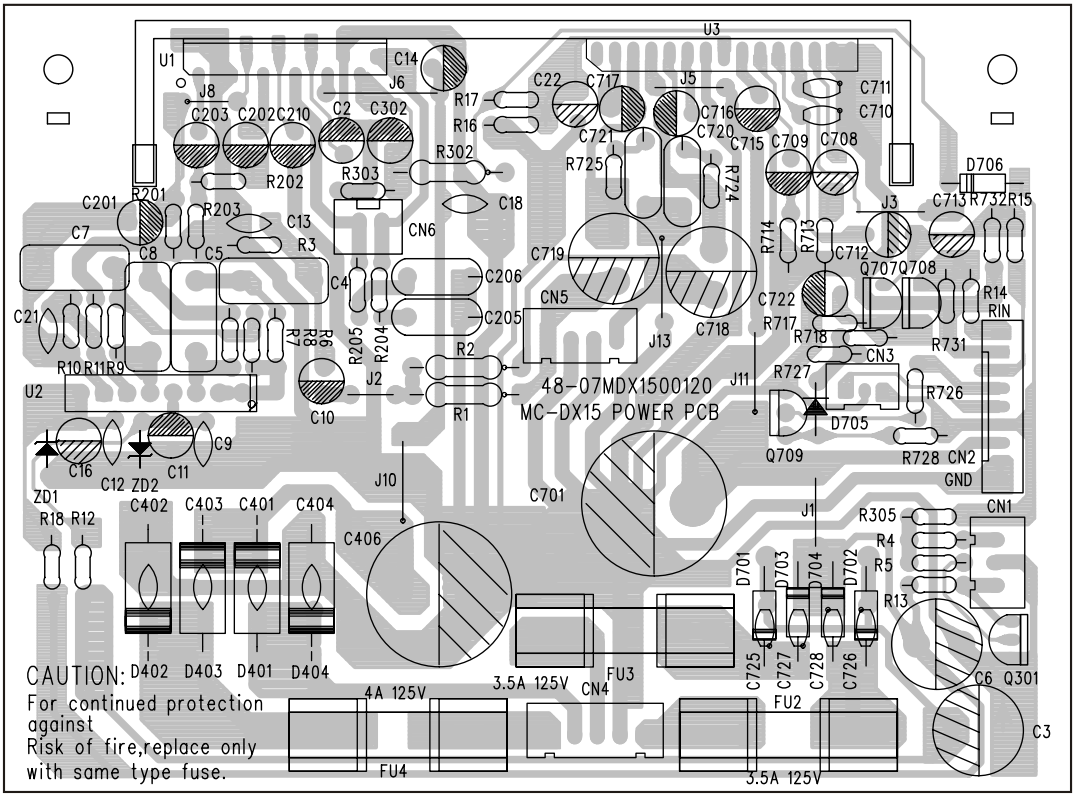
SUBWOOFER POWER PCB ASSY

REF. NO		PARTS NO.	DESCRIPTION	REMARKS
		05-07DX01500000	SUBWOOFER POWER PCB ASSY	
		48-07DX01500123	SUBWOOFER POWER PCB	
CN1		43-012250130120	WAFER 2.5MM 3 PIN	
CN2		43-012200190120	WAFER 2MM 9 PIN	
CN4		43-012250150120	WAFER 2.5MM 5 PIN	
CN5		43-012250140120	WAFER 2.5MM 4 PIN	
CN6		43-012250120120	WAFER 2.5MM 2 PIN	
C406	⚠	26-017470950111	E.CAP - 4700UF/35V	
C701	⚠	26-017470850121	E.CAP - 4700UF/25V	
C718,719	⚠	26-017100750121	E.CAP - 1000UF/16V	
D401-404	⚠	12-1N5401000021	RECTIFIER DIODE 1N5401	
D701-704	⚠	12-RL2020000021	RECTIFIER DIODE RL-202	
D705,707		12-1N4148000021	DIODE 1N4148	
D706		12-1N4001000021	RECTIFIER DIODE 1N4001	
FU2,3	⚠	46-055350200010	GLASS FUSE 3.5A/125V	
FU4	⚠	46-055400200010	GLASS FUSE T4A/125V	
Q301,709		11-9014C0000021	TR - 9014C	
Q707,708,710		11-2SD1936T0021	TR - 2SD1936T	
U1		16-TA8216H00021	IC - TA8216H	
U2		16-BA4558N00021	IC - BA4558N	
U3		16-BA5417000021	IC - BA5417	
ZD1,2		12-011910320121	ZENER DIODE 9.1V	

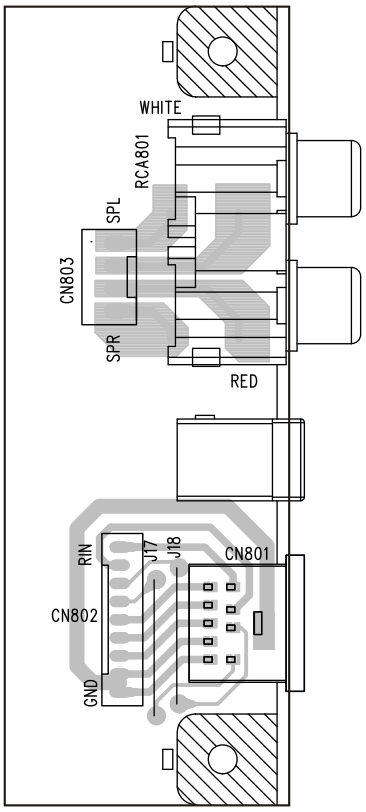
RCA/D-S JACK PCB ASSY

REF. NO	PARTS NO.	DESCRIPTION	REMARKS
	05-08DX01500000	RCA/D-S JACK PCB ASSY	
	48-08DX01500220	RCA/D-S PCB	
CN801	43-462103003320	D-S TERMINAL #DSW-31	
SPK	43-451200006120	H/RCA JACK 2PIN	

SUBWOOFER POWER PCB



RCA/D-S JACK PCB



KEY / DISPLAY PCB ASSY

REF. NO	PARTS NO.	DESCRIPTION	REMARKS
	05-05CDX0900000	KEY/DISPLAY PCB ASSY	
	48-05CDX0900120	KEY/DISPLAY PCB	
LCD	13-05CDX0900020	LCD DISPLAY KPS-M0315-TB-1	
LED3,4	13-011200122020	LED D2X5X7MM - WHITE	
LED1,2	13-011206122020	LED D2X5X7MM - BLUE	
Q707	11-9015C0000021	TR - 9015C	
REM	17-05FM60380011	OPTIC SENSER FM-6038TM2-5A	
SW1-13	41-150010030020	TACH SW 6x6mm 4 LEGS	

HP/AUX JACK PCB ASSY

REF. NO	PARTS NO.	DESCRIPTION	REMARKS
	05-09CDX0900000	HP/AUX PCB ASSY	
	48-09CDX0900120	HP/AUX PCB	
AUX	43-431355000020	PHONE JACK D3.55MM TC-38-010-01	
HEADPHONE	43-431355001020	PHONE JACK D3.5MM TC38-020-05-01 W/SW	
L401-403,405	38-013100050220	AXIAL INDUCTOR 10UH	

LED PCB ASSY

REF. NO	PARTS NO.	DESCRIPTION	REMARKS
	48-16DX01500221	LED PCB ASSY	
	13-011309022020	LED LAMP 3MM - ORANGE/BLUE	

OPEN SW PCB ASSY

REF. NO	PARTS NO.	DESCRIPTION	REMARKS
	48-23DX01500220	OPEN SW PCB ASSY	
	41-071200000020	SERIES MICRO SWITCH SD-002	

CLOSE SW PCB ASSY

REF. NO	PARTS NO.	DESCRIPTION	REMARKS
	48-23DX0150022A	CLOSE SW PCB ASSY	
	41-071200000020	SERIES MICRO SWITCH SD-002	

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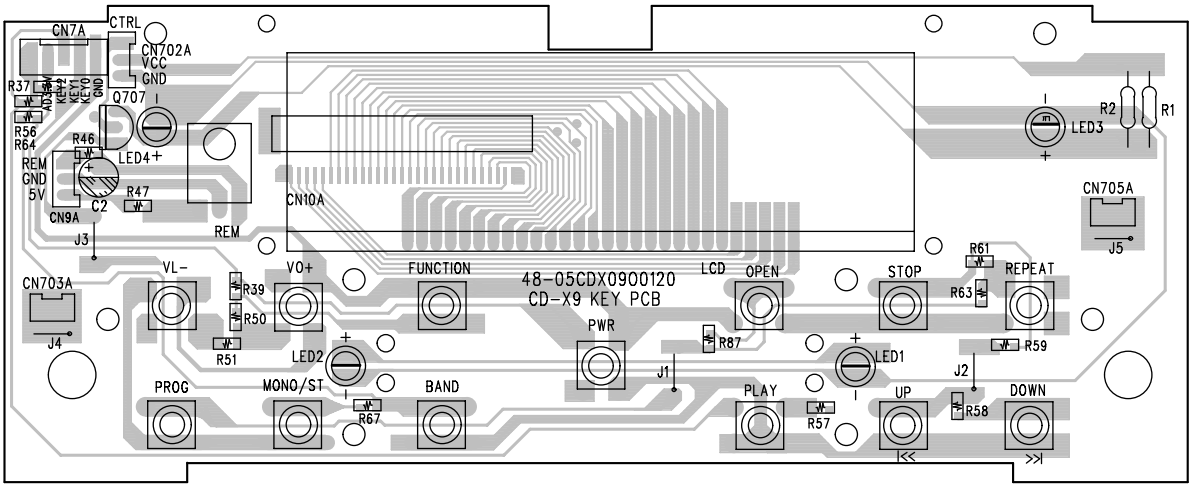
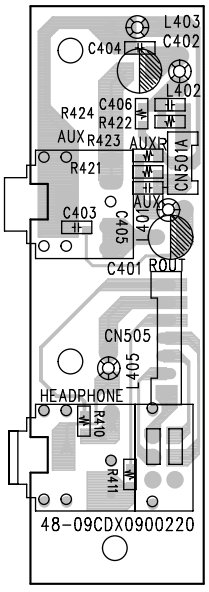
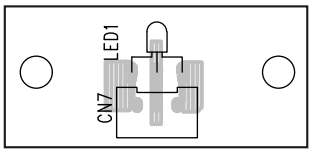
KEY/DISPLAY PCB



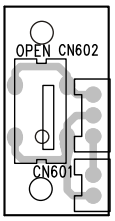
HP/AUX JACK PCB



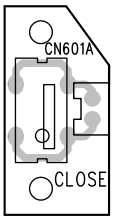
LED PCB



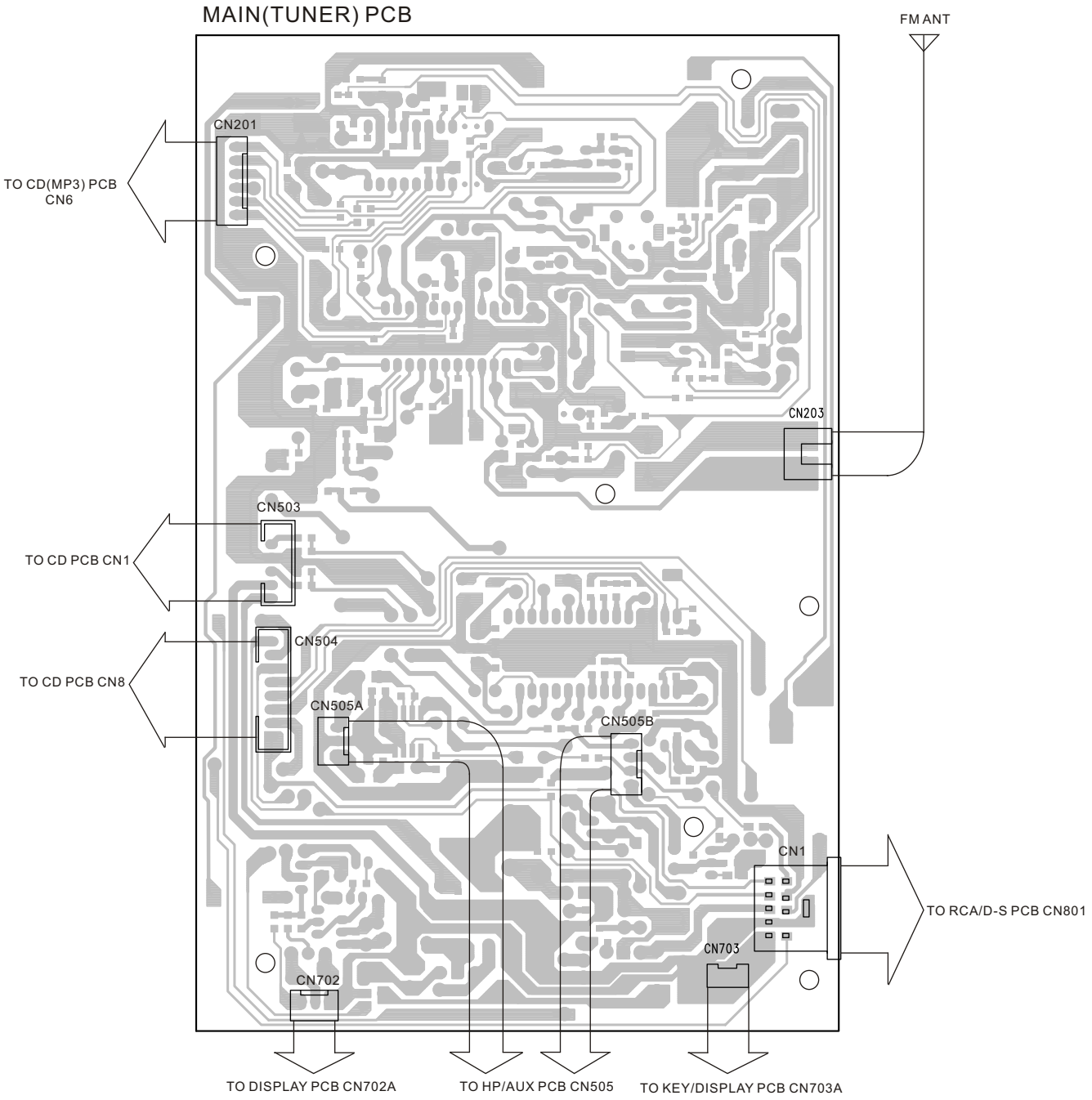
OPEN SW PCB



CLOSE SW PCB



6 WIRING DIAGRAM



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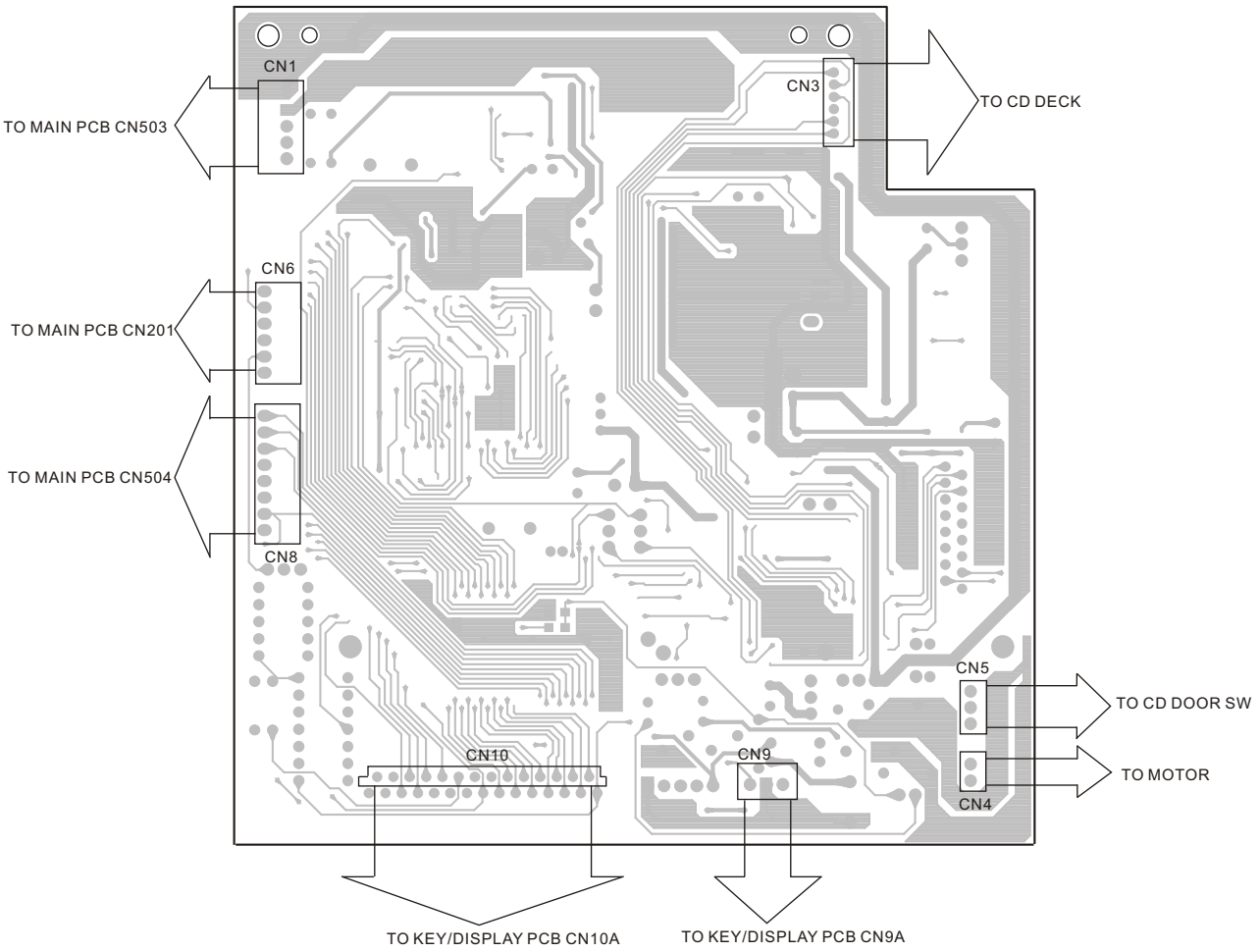
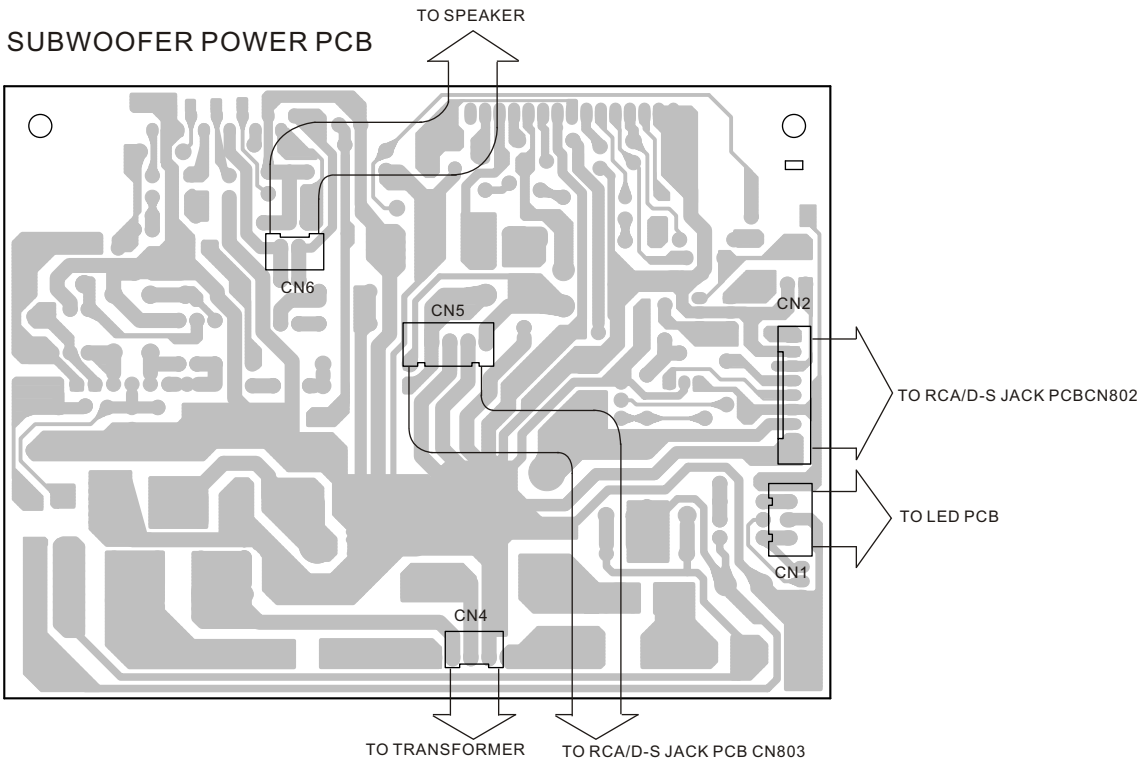
CD(MP3) PCB - BOTTOM



SUBWOOFER POWER PCB



7 INCLUDED ACCESSORIES

INCLUDED ACCESSORIES

REF. NO	PARTS NO.	DESCRIPTION	REMARKS
	77-20DX0900020	INSTRUCTION BOOK- E	
	45-194150000020	FM ANT 1.5M - BLACK	
	02-32DX01500000	AM LOOP ANT ASSY	
	45-164300051020	SPEAKER CABLE - WHITE	
	45-164300151020	SPEAKER CABLE - RED	
	45-244300059020	9 PIN S TERMINAL CABLE - GREY	
	02-17CDX9M00000	REMOTE CONTROL - RC-1045	
	51-021301000050	LITHIUM BATTERY CR2032	
	45-263500000120	STEREO MINI PLUG CABLE	

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TEAC

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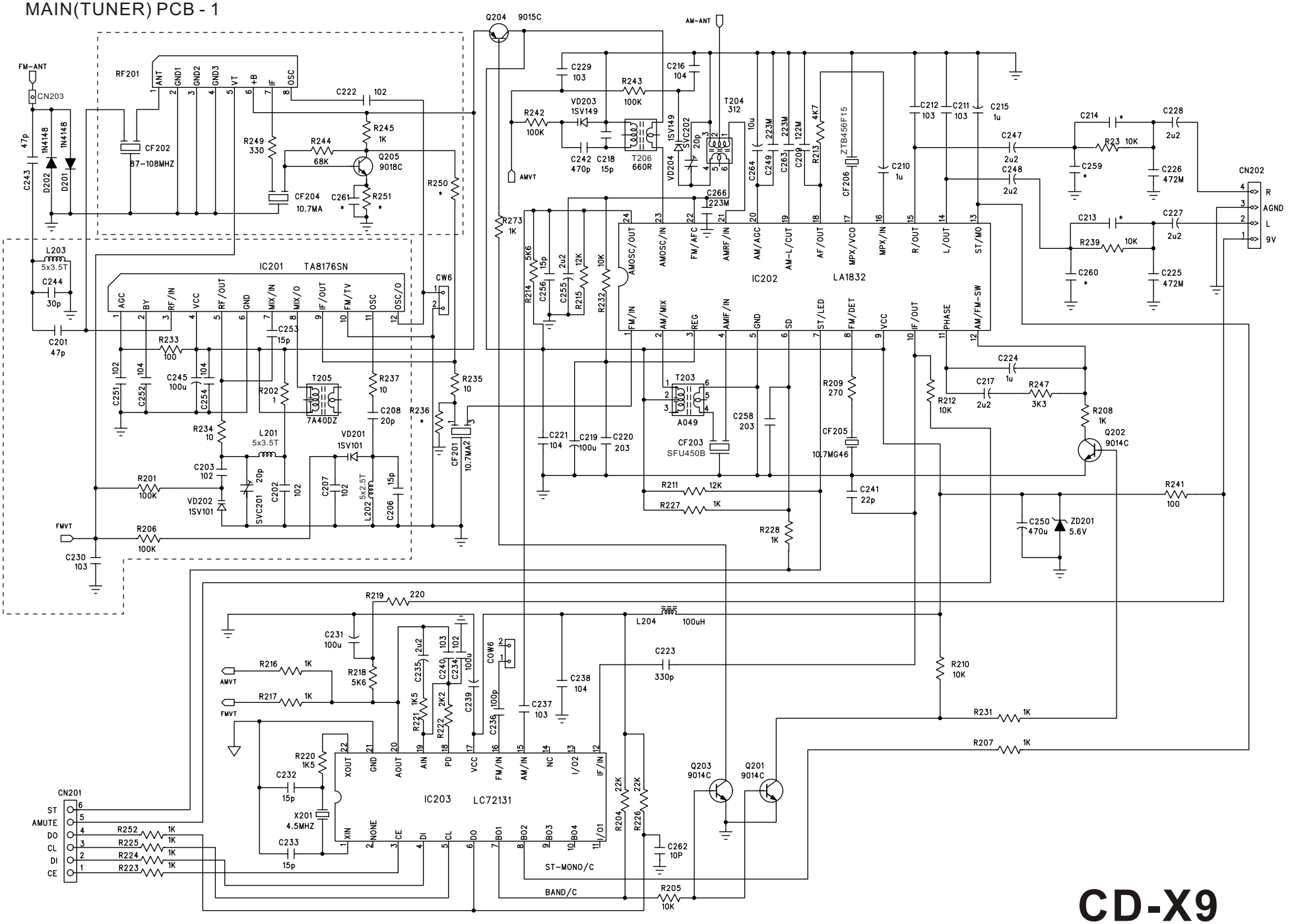
TEAC CANADA LTD.	5939 Wallace Street, Mississauga, Ontario L4Z 1Z8, Canada Phone: (905)-890-8008
TEAC MEXICO, S.A.De C.V.	Campesinos N°184,Colonia.Granjas Esmeraida, Delegacion Iztapalapa,CP 09810,Mexico DF Phone: (525)-581-5500
TEAC UK LIMITED	Unit 19 & 20, The Courtyards, Hatters Lane, Watford, Hertfordshire, WD18 8TE5, U.K. Phone:(0845) 130-2511
TEAC EUROPE GmbH	Bahnstrasse 12, 65205 Wiesbaden-Erbenheim, Germany Phone: 0611-71580
TEAC ITALIANA S.p.A.	Via C, Cantu 9/A, 20092 Cinisello Balsamo, Milano, Italy Phone:02-66010550
TEAC AUSTRALIA PTY., LTD. A.B.N. 80 005 408 462	280 William Street, Melbourne VIC 3000, Australia Phone:(03)9672-2400

OCT 2005

PREPARED IN HONG KONG

MAIN(TUNER) PCB - 1



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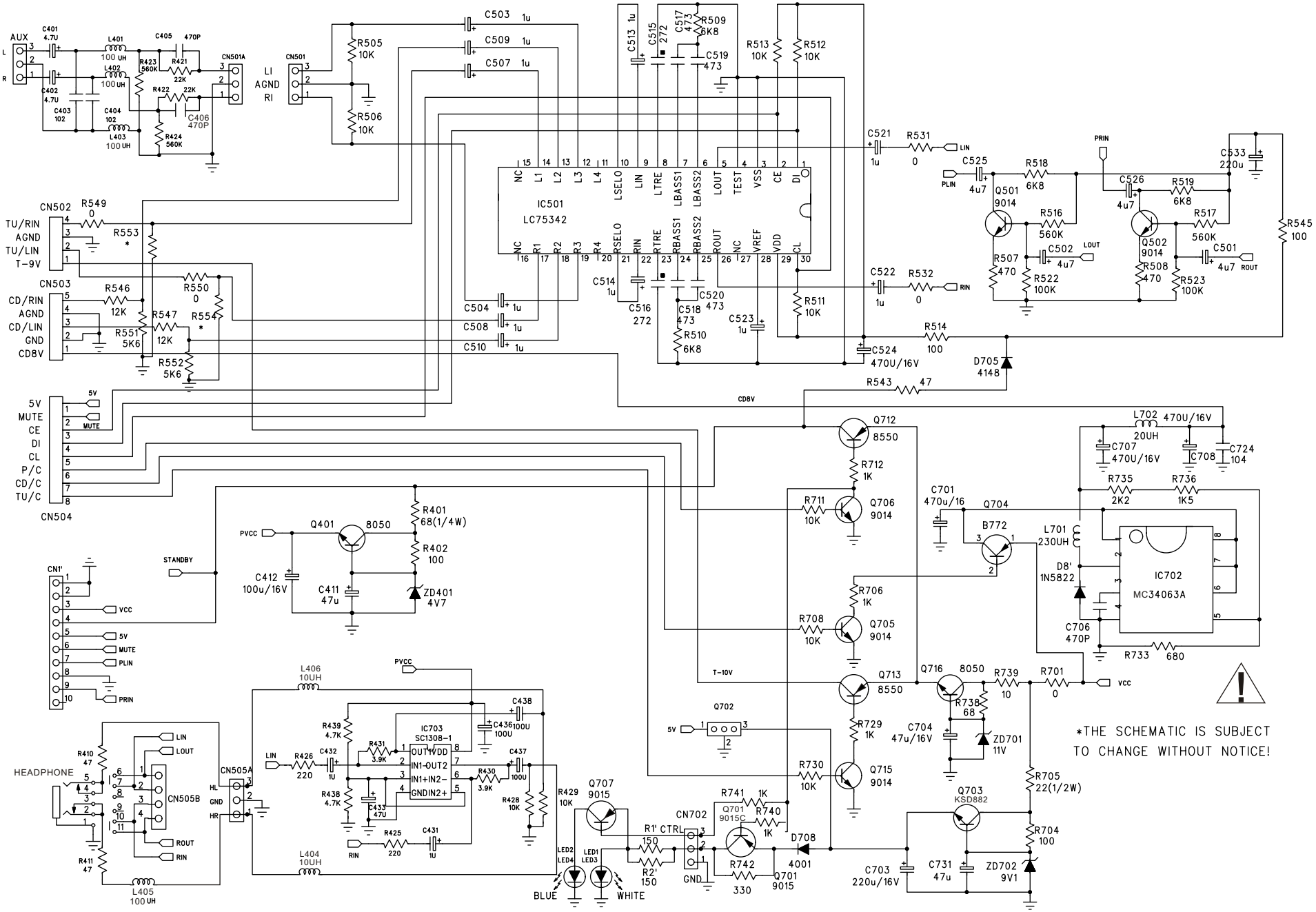
MICRO HI-FI SYSTEM

MAIN(TUNER) PCB - 2



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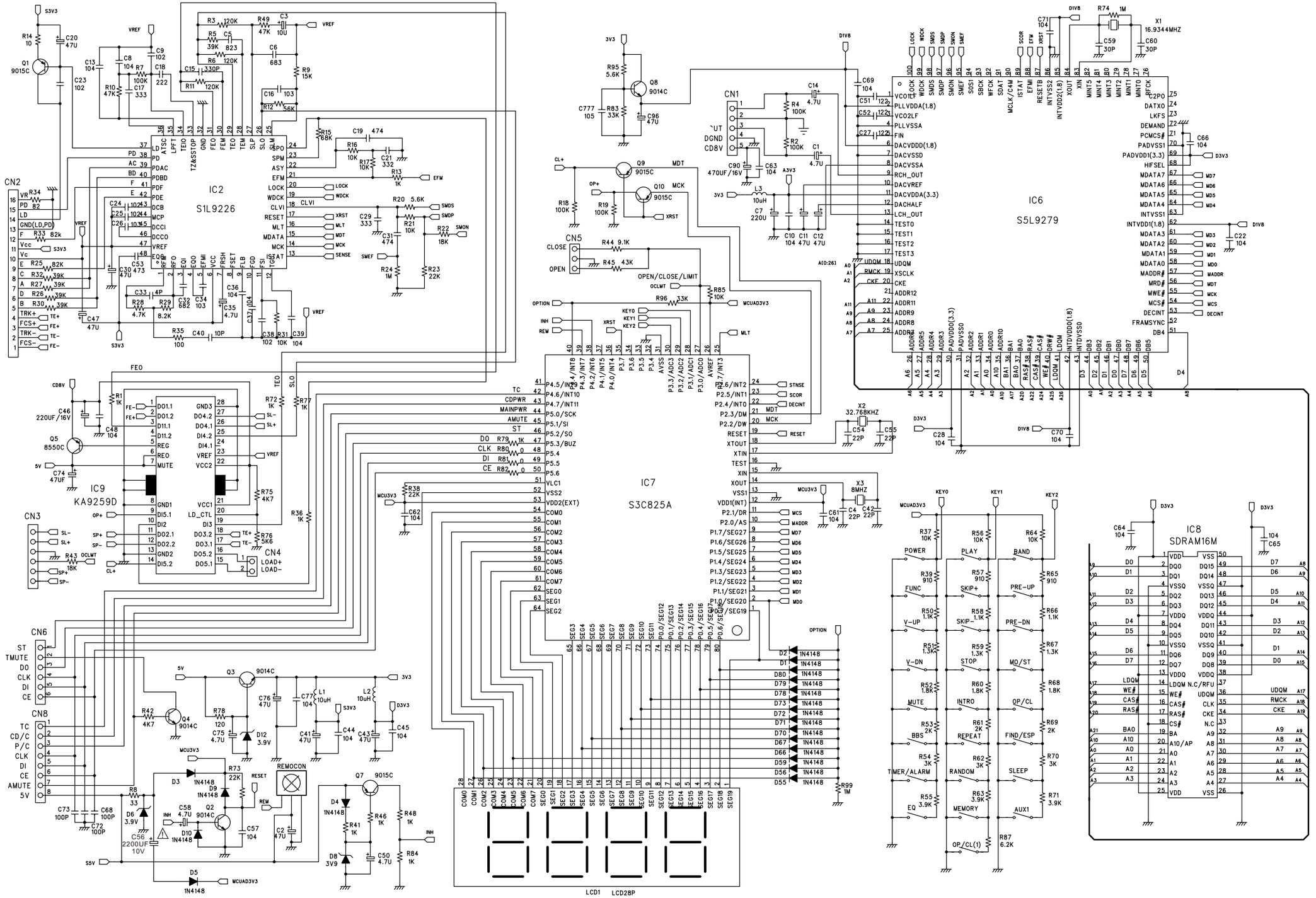
MICRO HI-FI SYSTEM



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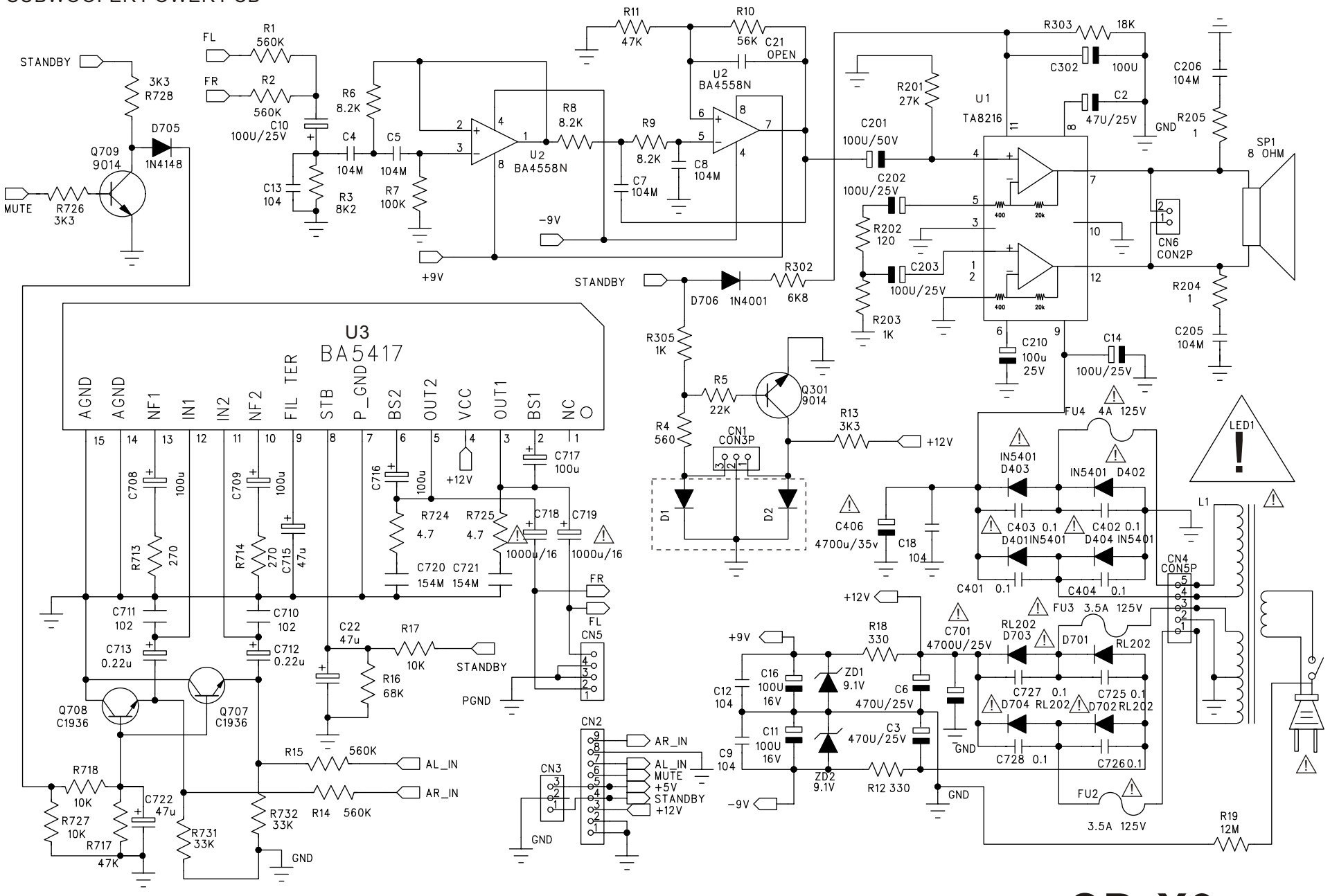
MICRO HI-FI SYSTEM

SUBWOOFER POWER PCB



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MICRO HI-FI SYSTEM